



## Family drawings of Iranian children with autism and their family members

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### ABSTRACT

The purpose of this study was to investigate attachment of children with autism through their drawings. Also investigated were the feelings and attitudes of the mothers and siblings of children with autism toward them through their drawings. Kinetic Family Drawing test is a projective instrument that can show attitudes, interactions, and feelings of family members toward each other. Family drawings of 30 children with autism, and drawings of their mothers and siblings were analyzed and compared with those of 30 normal children and their family members using Phi-squares test. The results showed that children with autism performed significantly differently from normal children in only the omission aspect of family drawing test ( $P > 0.05$ ). Mothers of autistic children were significantly different from mothers of normal children in terms of size, priority of drawing and space of the test ( $P < 0.05$ ). Also siblings of autistic children performed significantly differently from siblings of normal group in terms of space and the omission aspect ( $P < 0.05$ ).

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### Introduction

Attachment is conceptualized as the affectional bond or tie that infants develop with their attachment figure during the first year of life (Bowlby, 1982). Patterns of attachment behavior reflect the child's anticipations about parental reactions to bids for comfort. These anticipations, in turn, guide the child's strategies for regulating negative emotions and managing the stress (Rutgers et al., 2007). Children with autism have restricted and repetitive interests and activities, communication impairments, and atypical social interaction skills (APA, 2000). Social deficits observed in children with autism include difficulties understanding the facial expressions of others, initiating social interactions, responding to the social bids of others (Hauck, Fein, Waterhouse, & Feinstein, 1995). Among these children there is either no contact with their family such as mother or it is in a bizarre way. This causes the mother to think that the child does not recognize her (Weininger, 1993). Therefore, parents of children with autism exhibit more stress than parents of typically developing children (Konstantareas & Papageorgiou, 2006). Multiple studies have reported elevated levels of depressive symptoms and psychological distress in parents of children with ASD. These differences have been found in parents of children with ASD compared to parents of children with Down syndrome (Abbeduto et al., 2004). In addition, having a member with ASD in a family poses unique and long-term challenges for

each member of the family (Lin, Orsmond, Coster, & Cohn, 2011). Some research findings examining the adjustment of siblings of children with autism have shown that siblings of these children are negatively impacted (Benson & Karlof, 2008).

However, children may have limited verbal skills and this may not allow them to participate in the conversation or conceptualize family issues using language (Terr, 1994). One of the research methods used on children is the analysis of their creations such as drawings. Children's drawings open up newer doors to their world. While drawing, children unconsciously reveal their internal emotions by means of random lines and shapes providing us with their personality and characteristic differences (Einarsdottir, Dockett, & Perry, 2009). Drawings are an important part of the child's life. Children can describe their happiness, unhappiness, future dreams, past lives and continuing lives as they wish to express through their drawings (Artut, 2006). Clinicians and researchers claim that analytic interpretation of the expressions in the drawing reveal one's weaknesses, fears (Freilich & Shechtman, 2010) and negative traits, as well as their strengths, accomplishments and untapped potential, and give insight into who they are (Malchiodi, 1998). Unlike other assessment procedures, such as psychometric tests, drawing requires little or no training for the client or for the psychologist to administer. For many children, drawing represents a natural activity that is spontaneously and frequently participated in, usually with much enjoyment. When applied in the clinical setting, it is likely to reduce the child's anxiety about the situation and the nature of the investigation. The potential use is particularly highlighted for children with developmental disabilities where learning or language difficulties may prevent other activities.

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Furthermore, the drawing literature is littered with formal drawing tests that claim to assess children's intellectual ability, personality, current emotional state, or their feelings toward the important people in their life. Although research evidence has seriously questioned the reliability and validity of most of these tests, recent surveys conducted in America suggest that drawings are still frequently used as projective assessments (Camara, Nathan, & Puente, 2000; Cashel, 2002).

There are a variety of projective tests employing children's drawings. One of these tests, named Kinetic Family Drawing (KFD) was described by Burns and Kaufman in 1970. The Kinetic Family Drawing (KFD) is usually administered to children (Burns & Kaufman, 1970) and is considered to project the child's feelings about their role in the family unit. The distance and the interaction between the figures in the drawing are thought to be among the most psychologically meaningful features of the drawings. Malchiodi (1998) notes that the body of research produced on children's drawings of their family, including the KFD, is minimal with poor replication shown in larger samples.

Kaplan and Main (1985) were the first to suggest that children's drawings might be a fruitful way of capturing attachment representation. It has been widely argued by clinicians that the nonverbal nature may free the child to express emotions and attitudes that are otherwise difficult to assess. It seems plausible that representation of attachment experiences would be revealed in drawings (Hampshire & Matthijsse, 2010). Many researchers have used this test to study the relationship between family members and children's attachment (e.g. Handler & Habenicht, 1994; Metin & Üstün, 2010). Here, the interest was in using Kinetic Family Drawing test to assess autistic children's attachment and feelings of their family members in this study. A growing body of research has utilized attachment research methodology to study relational behaviors in children with autism and their parents. Despite the bleak implications of theoretical models assuming children with autism and associated disorders they are unable to form secure attachment relationships (Rogers & Pennington, 1991), a number of studies have reported secure attachment behaviors toward their mothers in children with autism (Rutgers et al., 2007).

Also studied were the drawings of mothers and siblings of children with autism to find how they react having a member with such disorder and how they accept them. Studying attachment of children suffering from this disorder and the effect of having a child with autism in the family on feelings of other family members using a family drawing test is a new idea in Iran. Of interest were the patterns of relationships within the family, rather than self-perceptions alone and the concentration was on four aspects including: space between family members, member's size, priority of drawing and omission in the family drawings of these families in comprising normal children and their families.

## Method

### Participants

The aim of this research was to investigate the attachment of children with autism and feelings and relationship of their family members. 30 children with autism, ranging from 8 to 10 years in age and thirty normal children of the same age participated in this study. Autistic children were children without mental retardation. The sampling was done in four phases. In the first phase, having made a list of all the clinics in Isfahan,<sup>1</sup> 15 clinics were selected. In the proceeding phase, among the autistic clients of these clinic

**Table 1**

Age mean and standard deviation of participants.

	Autistic group (N=30)		Normal group (N=30)	
	M	SD	M	SD
Children	8.86	.66	8.9	.68
Mothers	33.76	6.7	34.78	3.01
Siblings	6.25	86.6	6.01	.62

centers, 200 children with autism (IQ > 70) were selected and in the next phase, of this number, 100 children who had at least 1 younger sibling were selected because in terms of size in the mother's drawing they had to be under control and comparable to mothers of normal children. In the last phase between these children, 30 families with a sibling five to seven were selected. In all the phases, the selecting process was done randomly. Mothers of these children were also selected to participate in this study. From each family of these children one younger brother or sister (aged between five to seven years) also were selected. In the families, there were two of younger brothers or sisters in with the expected age, and selection was done randomly. 30 normal children and their family members were also selected from Isfahan public schools in the same way in order to compare to the group suffering from autism.

### Instrument

The subjects were assessed by Kinetic Family Drawing test. The Kinetic Family Drawing (KFD) was described by Burns and Kaufman in 1970. In the traditional form of this test, the child is asked to draw a picture of his family. In the latest Corman's instruction, the child is asked to draw an imaginative family (Corman, 1967). In this instruction more freedom is given to the child and by this means the unconscious desires are expressed more easily. However, in this research, autistic children understood the traditional instructions better and therefore directly asked to draw their own family. Thus, the other participants were examined in the same way. In order to take the test, a paper, a pencil and an eraser were required. In the current study, qualitative methods were used to grade the children for the purpose of the analysis of the family test results. For example one point is given, for the distance between children and their parents while 0 point is given for absence.

### Statistical analysis

Having selected the subjects, the test was given individually for the group samples. In all the cases, children were free in drawing style and time. The age and sex of the cases were written on their drawing sheets. The collected drawings were analyzed by three examiners to whom the grading method was taught. The examiners graded the drawings independently not knowing whether they belonged to the autistic or normal group. After grading and analyzing the integration among the three points of views, the differences were distinguished and the agreement between two examiners was chosen. In the end, the points of the sample group members were put into a table (N = 180) and analyzed by means of a Chi-square statistics test using SPSS-15 software.

## Results

Table 1 contains demographic information of all the samples including children with autism, their mothers and siblings and normal children and their family members.

Table 2 contains the Chi-square test results for four investigated aspects in family drawing test of children with autism comprising normal children in this study.

<sup>1</sup> A city in Iran.

**Table 2**  
Frequency and Phi-squares test's result of children's drawings.

Aspects of KFD test		Autistic children (N = 30)		Normal children (N = 30)		Pearson Phi-squares	df	P
		F	%F	F	%F			
Omission	Him/herself	0	0	5	16.7	17.372	3	.00*
	Parents	4	13.3	5	16.7			
	Siblings	20	66.7	3	10			
	Any omission	6	20	17	56.6			
Space	With parents	6	20	9	30	0.8	2	.6*
	Without space	24	80	21	70			
Size	Mother taller	16	53.3	15	50	1.09	3	.7*
	Father taller	9	30	7	23.3			
	Child taller	3	10	4	13.3			
	All members in the same size	2	6.7	4	13.3			
Priority	Mother	9	30	15	50	3.02	2	.22*
	Father	10	33.3	9	30			
	Him/herself	11	36.7	6	30			

\*  $P < .05$ .

According to Table 2 in terms of space, size and drawing priority, there was no significant difference between autistic children and normal children ( $P > 0.05$ ). These children draw their parents first of all, parents are taller than children and in most of the drawings, there is no obvious space between the child and parents. But concerning the omission of family members in the drawings, autistic children significantly differed from normal children ( $P < 0.05$ ). They usually omitted their siblings from their drawings.

Table 3 contains the Chi-square test results for the same aspects in family drawing test of children with autistic siblings and normal children's sibling.

Table 3 shows that siblings of children with autism omitted their autistic sister or brother significantly more often than did normal children ( $P < 0.05$ ). The other siblings who did not omit the autistic child, did not show a significant difference from normal children's siblings in the size and drawing priority ( $P > 0.05$ ). They usually draw the autistic children first and taller perhaps because they are older. But in terms of space they performed differently from the normal sample ( $P < 0.05$ ). They usually draw themselves with an obvious distance from parents especially mothers.

Table 4 contains the results of analyzing drawings of mothers of children with autism and normal children.

Finally, analyzing mother's drawings showed that they did not omit their autistic child but performed significantly different from mothers of normal children in terms of size and priority of the drawing ( $P < 0.05$ ). Unlike mothers of normal children, they

usually drew this child smaller than their other child, although they were older. Mothers of normal children drew the older child taller than the other child. Mothers of autistic children also drew their normal children first and drew the autistic children at the end of their drawing. Unlike these mothers, mothers of normal children drew the older child at first. In the space criteria mothers of autistic children were also significantly different from mothers of normal children ( $P < 0.05$ ). They usually drew themselves with a clear distance from their husbands, but mothers of normal children drew the family with no space between the members.

## Discussion

Are children with autism able to form attachment relationships with their parents or other caregivers? Kanner (1943) did not explicitly refer to attachment in his pioneering work on 'early infantile autism'. In 1943, he ascribed the extreme autistic loneliness of children especially to biological features. Bettelheim (1959) explicitly blamed the parents for their child with autism. According to Bettelheim (1959), the origin of autism lies in the extreme emotional deprivation combined with experiences which they interpreted as threatening them with utter destruction. The idea that attachment problems would be involved in autism is also clear in the formal diagnostic criteria for autism in the DSM. The DSM-III (APA, 1980) described that in autism there is a "failure to develop

**Table 3**  
Frequency and Phi-squares test result of siblings' drawings.

Aspects of KFD test		Siblings of autistic child (N = 30)		Siblings of normal child (N = 30)		Pearson Phi-squares	df	P
		F	%F	F	%F			
Omission	Specific child	12	40	5	16.6	5.07	1	.02*
	Him/herself	0	0	0	0			
	No omission	18	60	25	83.4			
Space	With mother	8	44.4	2	8	16.92	3	.00*
	With father	0	0	4	16			
	With specific child	5	27.8	1	4			
	Without space	5	27.8	18	72			
Size	Specific child taller	7	38.9	3	12	4.34	2	.11*
	Him/herself taller	2	11.1	3	12			
	Both children in the same size	9	50	19	76			
Priority	Specific child	8	44.4	5	20	2.96	1	.08*
	Him/herself	10	55.6	20	80			

\*  $P < .05$ .

**Table 4**  
Frequency and Phi-squares test results of mothers' drawings.

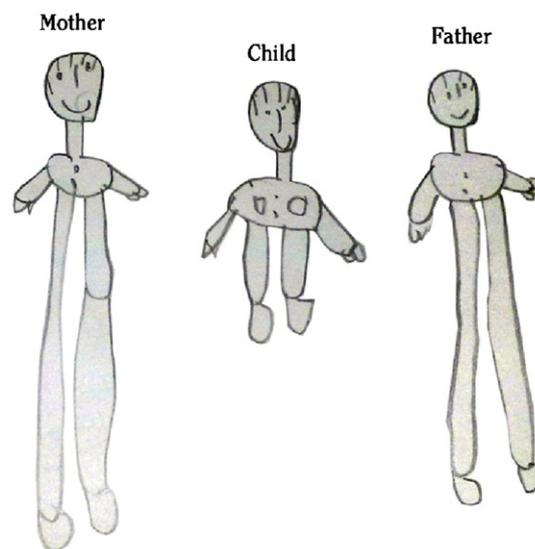
Aspects of KFD test		Mothers of autistic child (N=30)		Mothers of normal child (N=30)		Pearson Phi-squares	df	P
		F	%F	F	%F			
Omission	Specific child	2	6.7	0	0	4.28	2	.11*
	Other child	2	6.7	0	0			
	None of them	26	86.6	30	100			
Space (with children)	With specific child	10	33.3	2	6.6	7.15	2	.28*
	With other child	1	3.3	3	10			
	Without space	19	63.4	25	83.4			
Space (with husband)	With space	14	46.7	5	16.6	6.23	1	.01*
	Without space	16	53.4	25	83.4			
Size	Specific child taller	3	10	14	46.7	34.88	2	.00*
	Other child taller	22	73.4	0	0			
	Both children in the same size	5	16.6	16	53.3			
	Priority	Specific child	3	10	25			
Other child	27	90	5	16.6				

\*  $P < .05$ .

normal attachment behavior". Children with infantile autism are characterized by "a lack of responsiveness to and a lack of interest in people", "an indifference or aversion to affection and physical contact", and "may treat adults as if they are interchangeable". The DSM-III-R (APA, 1987) stated that "the attachment of some toddlers to their parents may be bizarre". There is however no explicit assertion about the attachment left in the DSM-IV (APA, 1994) and the DSM-IV-TR (APA, 2000). Many children with autistic disorder, show signs of attachment security, despite their impairment in reciprocal social interactions. Nevertheless, reviews of the studies on attachment in children with autism indicate that children with autism are able to form secure relationships with their attachment figures (Yirmiya et al., 2006). Buitelaar (1995) emphasizes that children with autism are able to show preferential proximity seeking and reunion behavior to the attachment figure after separation.

As to the parents of these children, researchers have shown that adults report a lower acceptance of and less positive attitudes toward children with special needs in comparison to children who are developing typically (Kennes et al., 2002; Nabors & Lehmkuhl, 2005). Having a member with autism in a family also poses unique and long-term challenges for each member of the family (Lin et al., 2011). Family members of individuals with autism may experience difficulty participating in their own daily activities and social activities (De Grace, 2004; Tunali & Power, 2002). Therefore examining the adjustment of siblings of children with disabilities has increased in recent years (Del Rosario & Keefe, 2003; Rossiter & Sharpe, 2001).

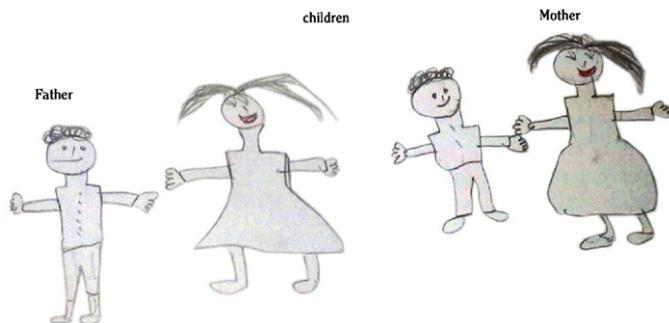
This study was focused on the attachment of children with autism and feelings of the family members of these children including mothers and siblings using Kinetic Family Drawing test. The results showed that between autistic and normal children there was no significant difference in these three aspects: drawing priority, member size and the space between family members. Like normal children autistic children drew their parents taller than other family members in the study. Also like normal children these children drew their parents first. Corman (1967) believed that the person who is drawn first is often the one who is valuable to the child and it is often one of his parents. Also initial hypotheses assumed that the artist would draw the family member perceived more importantly first, and then complete the picture by filling in the rest of the family. But some researchers found that family drawings were typically constructed by placing a family member of the same gender first with the other family members drawn in a non-discriminate sequence (Lin et al., 2011). Size may indicate who is important in the family or who wields the most power (Corman, 1967; Hammer, 1980). As mentioned earlier, researchers



**Fig. 1.** Family drawing by a 7-year old boy with autism who has a younger brother.

have shown that these children can show secure attachment to their caregivers (Buitelaar, 1995; Yirmiya & Sigman, 2001).

Fig. 1 shows the drawing of an autistic child. The child has been drawn between parents with no obvious distance. Mother is tallest and both parents have been drawn. But the sibling of the child has been omitted in this picture. Fig. 2 shows a normal child drawing. There is no space between family members. All the family members have been drawn and parents are taller than children.



**Fig. 2.** Family drawing by a 6-year normal boy who has a younger sister.

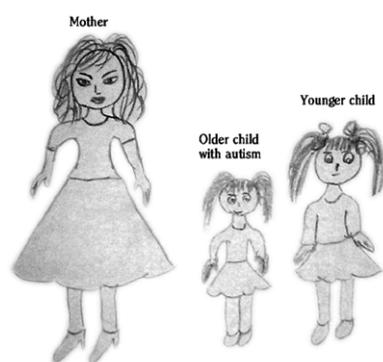


Fig. 3. Family drawing of a mother with an autistic child.

But mothers of autistic children were significantly different from mothers of normal children. These mothers drew autistic children shorter than their other children, although their autistic children were older. Mothers of normal children usually drew the older child taller than the other one. Unlike mothers of normal children, these mothers also drew their younger normal child first, but mothers of the normal group usually drew their older child first. Researchers have shown that adults report a lower acceptance of and less positive attitudes toward children with special needs in comparison to children who are developing typically (Kennes et al., 2002; Nabors & Lehmkuhl, 2005). This finding corresponds to the previous research and may show that mothers of autistic children perceived these children less important than did the other child. Performance of siblings of the two groups was not significantly different in these two elements.

Fig. 3 shows drawing of a mother with an autistic girl. Although the child is older than her sister, the mother has drawn her smaller. The husband has been drawn in an obvious distance from the mother. Fig. 4 shows the drawing of a mother with normal children. She has drawn the oldest child taller than the other. There is no obvious distance between the family members.

Another noticeable finding in this study was the distance between the family members in autistic children's drawings. Like normal children, these children often drew themselves with no significant distance with parents and often between them. There is no specific space between family members in their drawings (see Fig. 1). Space is one aspect of family drawings. Various researchers have concluded that closer figures placed in a drawing share more emotional closeness (Fury, Carlson, & Sroufe, 1997; Rabinowitz,

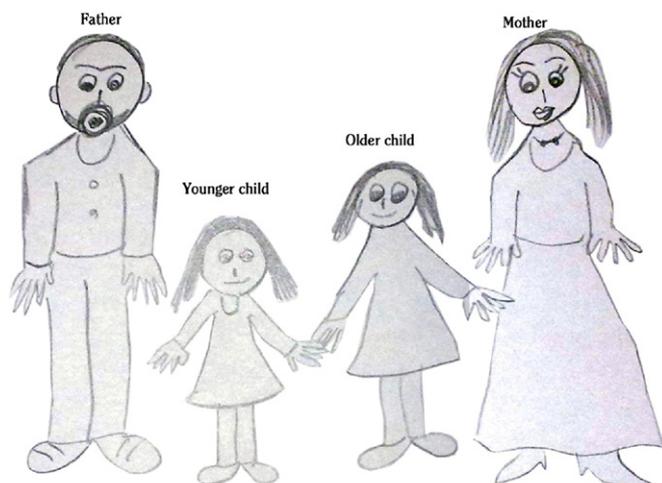


Fig. 4. Family drawing of a mother with normal children.

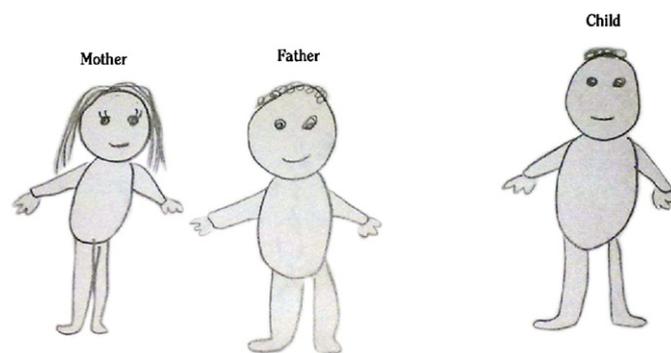


Fig. 5. Family drawing by a 5-year-old boy who has an autistic brother.

1991). Closeness may reflect intimacy in real life just as distance in a drawing may signify separateness. The data from spacing provides the assessor information on sociability and the relationship of others in the artist's life (Holtz, Brannigan, & Schofield, 1980). A number of studies have reported secure attachment behaviors toward their mothers in children with autism (Rutgers et al., 2007). Children with autism displayed secure attachment behaviors toward their mothers when in distress (Seskin et al., 2010). It was further noted that children with autism demonstrate of secure attachment patterns responded more frequently to bids for joint attention (Charman, 2003). This finding about autistic children in this study corresponds to these researches.

Mothers of these children were not different from mothers of normal children in terms of closeness with their child. They drew their children with no space between themselves and their children, but they usually drew their husband with an obvious distance from themselves (see Fig. 5). The study of McGlon, Santos, Kazama, Fong, and Mueller (2002) showed that parents who had a child with disability, had many problems in their marital relationship because of their stress and particular responsibilities. Also Gupta and Singhl (2004) believes that the stress of having a child with specific needs causes lots of marital problems between parents. Therefore, the space between mothers of autistic children and their husbands in this study may show marital problems in these families. The siblings of autistic children also performed significantly differently from the normal group in terms of space. They usually drew themselves far from their mothers. The siblings of children with disabilities often experienced a decrease in parental attention because parents became preoccupied by meeting the needs of the child with a disability. Siblings may feel isolated from the other family members. When another family member is so obviously in need, siblings may be reluctant to ask for their needs to be met (Benson & Karlof, 2008).

In the case of omission of a family member, autistic children revealed a significant difference from normal children. Autistic children often omitted their siblings from their drawings such which in Corman's (1967) point of view is a sign of difficulty in their relationship (see Fig. 1). Omission in drawings attests to repression or denial of that figure or object (Handler & Habenicht, 1994; Peterson & Hardin, 1997). Conflict as well as psychological and physical absence, is expressed through omission (Peterson & Hardin, 1997). Regardless of the cause, those who analyze family drawings (Peterson & Hardin, 1997) consider omissions a significant marker. Children with autism demonstrate severe social skill deficits (Volkmar, Klin, & Cohen, 2005). Social isolation from peers prevents the formation of social relationships, which are essential to early social development (U.S. Department of Health and Human Services, 1996). Omission of siblings in autistic children's drawings may show social interaction deficits in these children. Performance of the mothers of these children in this respect was not significantly

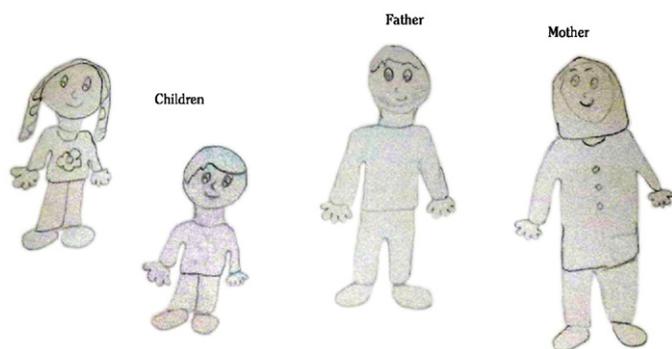


Fig. 6. Family drawing by a 6 year-old girl who has a normal brother.

different from that of mothers of the normal group. They did not omit any of their children but siblings of autistic group performed significantly different from the normal group. They showed a high level of tendency to omitting the autistic child in their drawings. Children are likely to experience a range of emotions in response to their brothers' or sisters' disabilities. Emotional issues can seemingly be found in siblings in any family (Powell & Gallagher, 1993). Roeyers and Mycke (1995), using the Sibling Inventory of Behavior, found that siblings of children with autism reported feeling with more embarrassment than siblings of children with mental retardation or the control group. Bagenhoim and Gillberg (1991) reported that siblings of children with autism experienced more problems with their brothers/sisters bothering them and breaking their things than did siblings of children with either mental retardation or no disability. Omitting autistic children in their drawings corresponds to these researches.

Fig. 5 shows a picture drawn by a boy who has an autistic brother. And Fig. 6 shows a picture drawn by a girl with a normal brother. In the first picture, the child has omitted his brother. In the second picture all the family members have been drawn.

Finally, the findings of this study showed that children with autism were no less attached to their parents. But in the case of siblings, it can be interpreted that these children have communication difficulties with their siblings and that they are different from normal children in this particular respect. However, whether or not autistic children have the tendency to communicate with their parents as do normal children but are not able to do so, needs further investigation. Mothers of these children usually perceived their normal children as more important than did these ones and usually had problems in relationship with their husbands. Siblings of autistic children showed problems with the autistic brother or sister and also experienced difficulty interacting with their mothers.

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